IN THE CLAIMS

Please amend the claims as follows.

1.   (Currently Amended)   A multi-point touch pad, comprising:

a touch layer having a top surface and a bottom surface; ~~and~~

a plurality of pressure sensing devices coupled to the bottom surface of the touch layer such that touch pressure applied to the top surface will impart pressure to the pressure sensing devices near the location of the touch pressure; <u>and</u>

<u>a processor coupled to the</u> ~~each~~ pressure sensing device<u>s</u> ~~coupled to a processor~~ <u>and</u> constructed to calculate ~~the~~ location<u>s</u> of at least two points on the top surface being <u>simultaneously</u> touched [[,]] based on pressure sensing readings from the pressure ~~sensors~~ <u>sensing devices</u>.

2.   (Original)   The touch pad of claim 1, wherein the processor is also constructed to calculate the pressure applied at each point being touched.

3.   (Currently Amended)   The touch pad of claim 1, wherein the pressure sensing device<u>s</u> ~~comprises a~~ <u>comprise</u> sensor<u>s</u> selected from the group consisting of force sensing resistors, piezoelectric sensors and capacitive touch sensors.

4.   (Currently Amended)   The touch pad of claim 1, wherein <u>each of</u> the pressure sensing device<u>s</u> comprises a strain gauge.

5.   (Original)   The touch pad of claim 1, wherein the processor is a digital signal processor (DSP).

6.   (Currently Amended)   The touch pad of claim 1, wherein the pressure ~~sensors~~ sensing devices are arranged in a matrix.

7.   (Currently Amended)   The touch pad of claim 4, wherein the ~~sensors~~ pressure sensing devices are arranged in a matrix.

8.   (Currently Amended)   The touch pad of claim 1, wherein the processor is constructed to perform the following algorithm:

a.   sampling the pressure sensing ~~signals~~ readings from the plurality of pressure sensing devices;

b.   calculating locations of one or more ~~single or multiple~~ touches on the touch pad;

c.   calculating the amount of pressure exerted on each touch on the touch pad; and

d.   outputting calculation data.

9.   (Currently Amended)   The touch pad of claim 8, wherein:

the processor is constructed to perform the algorithm which contains the known positions of the strain gauges pressure sensing devices on the multi-point touch pad;

the known positions of the pressure sensing devices are identified with the following formula: (a_i, b_i), $i = 1, 2, \ldots, N$, where N is the a number of strain gauges pressure sensing devices, and the measured pressures of the strain gauges pressure sensing devices are p_i, $i = 1, 2, \ldots, N$;

the positions of the touch points on the multi-point touch pad are identified with the following formula: (x_j, y_j), $j = 1, 2, \ldots, M$, where M is a known number of the touch points [[(]] that is less than N [[)]], but and x_j and y_j are unknown and will be determined by the calculations of the formula;

the pressures of the touch points are identified with the formula: z_j, $j = 1, 2, \ldots, M$, which are also to be calculated using the algorithm;

the algorithm transfers the sampling data from a DSP sampling module to a processor calculation module where the algorithm calculates the positions and pressures of the touch points using the following mathematical formula: $p\_i = w(|(x\_1, y\_1) - (a\_i, b\_i)|) z\_1 + w(|(x\_2, y\_2) - (a\_i, b\_i)|)z\_2 + \ldots + w(|(x\_M, y\_M) - (a\_i, b\_i)|)z\_M$, $i = 1, \ldots, N$; where $w(|(x\_i, y\_j) - (a\_i, b\_i)|)$ is a weighting factor that reflects the effect of pressure z_j on p_i;

the algorithm calculates that: $w(|(x\_i, y\_j) - (a\_i, b\_i)|)$ is a function of the a distance between the touch point (x_j, y_j) and the sensor location (a_i, b_i);

the algorithm calculates that $|(x\_j, y\_j) - (a\_i, b\_i)| = sqrt((x\_j - a\_i)* (x\_j - a\_i) - (y\_j -$

b_i)* (y_j − b_i)) as being ~~the~~ a distance between the touch point of j and the sensor i using the notation "sqrt" as being representative of square root.

10. (Currently Amended)   A method of controlling an application with a touch pad, comprising the steps of:

providing a touch pad having a touch surface with a bottom and a top and a plurality of pressure sensors arranged under the touch surface and coupled to the bottom of the touch surface;

~~touching the top of the touch surface at at least two points;~~

sending a signal to a processor corresponding to ~~the~~ a pressure at each sensor when the top of the touch surface is simultaneously touched at two or more touch points; and

performing an algorithm to determine ~~the~~ locations of the ~~at least 2~~ two or more touch points based on comparing the pressure at each of the sensors.

11. (Original)   The method of claim 10, further comprising the step of:

calculating the pressure applied at each point being touched.

12. (Currently Amended)   The method of claim 10, wherein the [[:]] pressure sensors ~~sensing device is~~ are selected from the group consisting of force sensing resistors, piezoelectric sensors and capacitive touch sensors.

13.   (Currently Amended)   The method of claim 10, wherein the [[:]] pressure sensors sensing devices comprise strain gauges.

14.   (Currently Amended)   The method of claim 10, wherein the [[:]] processor is a digital signal processor (DSP).

15.   (Currently Amended)   The method of claim 10, wherein the [[:]] pressure sensors are arranged in a matrix configuration.

16.   (Currently Amended)   A method of claim 13, wherein the [[:]] pressure sensors are arranged in a matrix.

17.   (Currently Amended)   The method of claim 10 wherein the [[:]] processor performs an algorithm comprising comprises the steps of:

a.   sampling the signals from the plurality of pressure sensors strain gauges;

b.   calculating locations of one or more single or multiple touches on the touch pad;

c.   calculating the amount of pressure exerted on each touch on the touch pad; and

d.   outputting calculation data from the algorithm to control the application.

18.   (Currently Amended)   The method of claim 10 further comprising the steps of:

identifying ~~the strain gauge~~ positions <u>of the pressure sensors</u> with the formula: $(a\_i, b\_i), i =$ 1, 2, ..., N, where N is the number of ~~strain gauges~~ <u>pressure sensors</u>, and the measured pressures of <u>the pressure sensors</u> ~~strain gauges~~ are $p\_i, i = 1, 2, ..., N$;

programming the positions of the touch points on <u>the</u> multi-point touch pad as $(x\_j, y\_j), j = 1, 2, ..., M$, where M is a known number of the touch points <u>that is</u> [[(]] less than N [[)]], ~~but~~ <u>and</u> x_j and y_j are unknown and will be determined by the calculations of the algorithm;

quantifying the pressures of the touch points with the formula $z\_j, j = 1, 2, ..., M$, using the algorithm;

transferring sampling data from a sampling module to a calculation module;

calculating ~~calculate~~ the position<u>s</u> and pressure<u>s</u> of the touch points using the following ~~mathematical~~ formula: $p\_i = w(|(x\_1, y\_1) - (a\_i, b\_i)|) z\_1 + w(|(x\_2, y\_2) - (a\_i, b\_i)|)z\_2 + ... + w(|(x\_M, y\_M) - (a\_i, b\_i)|)z\_M, i = 1, ..., N$; where $w(|(x\_i, y\_j) - (a\_i, b\_i)|)$ is a weighting factor that reflects the effect of pressure z_j on p_i using the algorithm;

calculating ~~calculate~~ that: $w(|(x\_i, y\_j) - (a\_i, b\_i)|)$ is a function of ~~the~~ <u>a</u> distance between the touch point (x_j, y_j) and the sensor location (a_i, b_i) using the algorithm;

calculating ~~calculates~~ that $|(x\_j, y\_j) - (a\_i, b\_i)| = sqrt((x\_j - a\_i)* (x\_j - a\_i) - (y\_j - b\_i)* (y\_j - b\_i))$ as being ~~the~~ <u>a</u> distance between the touch point of j and the sensor i using the notation "sqrt" as representing square root using the algorithm.

19.   (New)   A method, comprising:

receiving a plurality of signals from a plurality of pressure sensors in a touch pad, the signals

representing a plurality of pressures detected by the pressure sensors when the touch pad is

simultaneously touched at two or more touch points;

identifying locations of the two or more touch points using the plurality of signals; and

identifying pressures applied to the two or more touch points using the plurality of signals.

20.   (New)   The method of Claim 19, wherein:

the plurality of pressure sensors comprise a plurality of strain gauges;

each of the strain gauges comprises a pair of sensor wires; and

the pressure associated with at least one of the touch points causes a change in a resistance of

at least one of the strain gauges, the change in resistance being transmitted through the pair of sensor

wires of the at least one strain gauge.